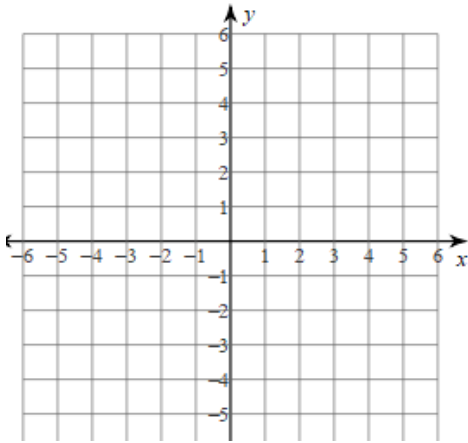
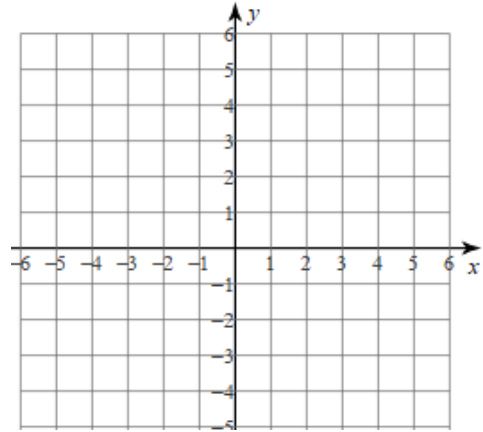


Graph the following absolute value functions.

10) $y = -|x - 1|$

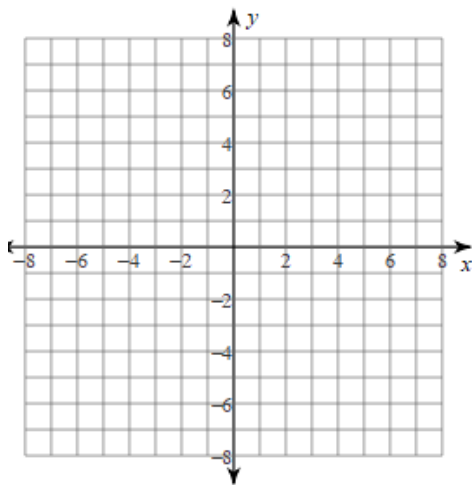


11) $y = 3|x - 1| + 2$

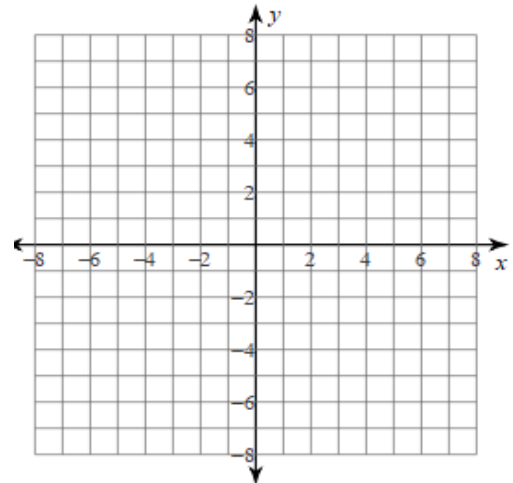


Graph the following piecewise functions.

12) $f(x) = \begin{cases} (x + 4)^2, & x \leq -4 \\ -|x|, & -4 < x < 2 \\ 2x - 4, & x \geq 2 \end{cases}$



13) $g(x) = \begin{cases} |x| - 1, & x \leq 2 \\ |x| + 1, & x > 2 \end{cases}$



Evaluate the following functions for the given value of x :

$$f(x) = \begin{cases} -x^2 - 5x & \text{if } x < 3 \\ 2x + 7 & \text{if } 3 \leq x < 9 \\ 7x^3 - x & \text{if } x \geq 9 \end{cases}$$

$$g(x) = \begin{cases} 5x^3 & \text{if } x \leq -6 \\ 0 & \text{if } -6 < x < 1 \\ -11x + 1 & \text{if } x \geq 1 \end{cases}$$

14) $f(3)$

15) $g(-1)$

16) $g(-7)$

17) $f(9)$

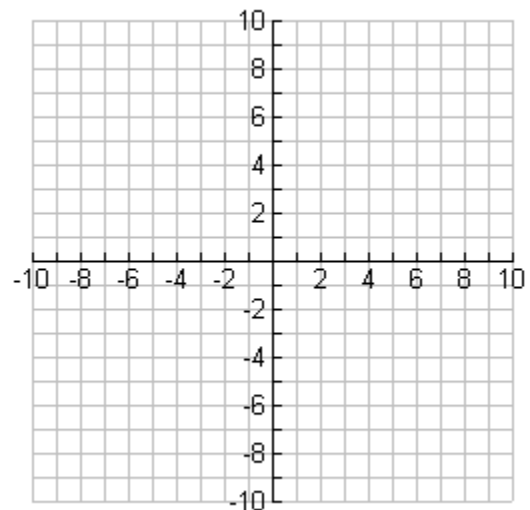
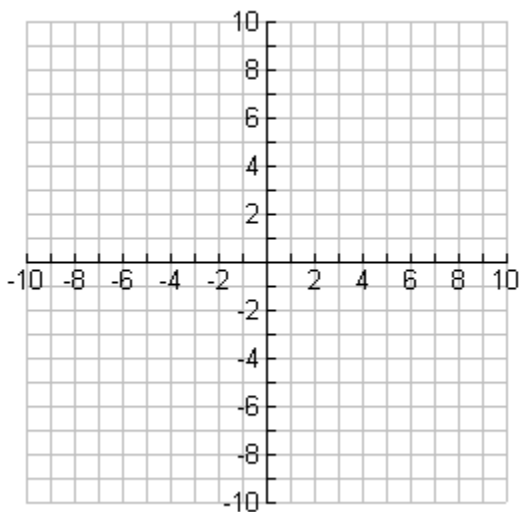
18) $g(6)$

19) $f(-5)$

Graph the following piecewise functions:

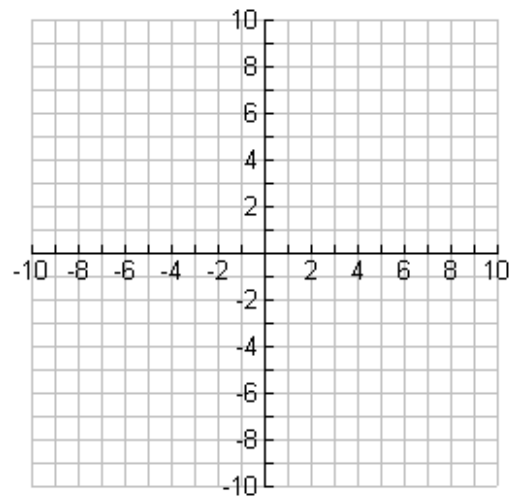
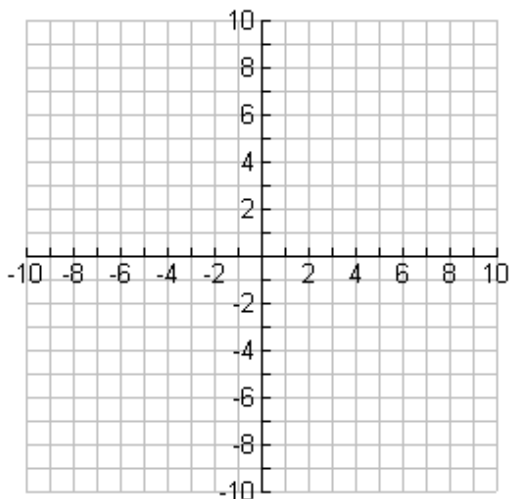
$$20) f(x) = \begin{cases} -4 & \text{if } x \leq -5 \\ -x + 4 & \text{if } -5 < x \leq 3 \\ 4x - 3 & \text{if } x > 3 \end{cases}$$

$$21) f(x) = \begin{cases} -2x - 7 & \text{if } x \leq -1 \\ -x^2 + 3 & \text{if } x > -1 \end{cases}$$



$$22) f(x) = \begin{cases} -2x + 3 & \text{if } x < 2 \\ (x - 3)^2 + 1 & \text{if } 2 < x \leq 5 \\ x & \text{if } x > 5 \end{cases}$$

$$23) f(x) = \begin{cases} -2 & \text{if } -3 < x \leq 0 \\ 1 & \text{if } 0 < x \leq 2 \\ 7 & \text{if } 2 < x \leq 5 \end{cases}$$



GIVEN THE FOLLOWING FUNCTIONS:

$$a(x) = -2x^2 - 4x$$

$$b(x) = 4x - 7$$

$$c(x) = x^2 + 4x - 5$$

$$d(x) = \frac{2x-5}{x-1}$$

$$f(x) = 5x^2 + 10x$$

$$g(x) = -12x$$

$$h(x) = x^3 + x^2$$

$$m(x) = 4x^2 - x - 3$$

$$p(x) = x^3 + 5x^2 + 3x + 15$$

$$r(x) = -x^2 - 3$$

DETERMINE THE FOLLOWING:

24) $(a - 3m)(x)$

25) $(2cb)(x)$

26) $(\frac{m}{c})(x)$

27) $(d(b(x)))$

28) $(afg)(x)$

29) $(a(b(h(-2))))$

30) $(\frac{f}{a})(x)$

31) $(h(f(-2)))$

32) $(m \circ b)(x)$

33) $(a \circ b \circ c)(-3)$

34) $(-f - a)(x)$

35) $(\frac{p}{r})(x)$

36) $(a(a(-1)))$